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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/590,582

08/24/2006

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PU030234

8702

24498 7590 03/22/2011

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EXAMINER

WILLIAMS, JEFFERY

ART UNIT

PAPER NUMBER

2482

MAIL DATE

DELIVERY MODE

03/22/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/590,582	Applicant(s) COOPER ET AL.	
	Examiner JEFFERY WILLIAMS	Art Unit 2482	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In **claim 23**, applicant refers to "said compressing step", which is dependent upon claim 14. Claim 14 contains two different compression steps. It is unclear which compression step is being referred to by the term "said compressing step".

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 10-12, 14-17, and 22-24 rejected under 35 U.S.C. 102(b) as being anticipated by Ishizuki et al. (US 2004/0042554).

Regarding **claim 1**, Ishizuka discloses an apparatus for compressing media content (see pg. 1, [0003], Ins. 15-16) in an electronic device having a video capture device for capturing the video content (see pg. 5 [0088]; digital video (DV) stream), comprising:

a real-time, Low Complexity (LC) video compressor for compressing the video content into an LC encoded bit stream in real-time (see pg. 5 [0087], Ins. 23-25); and

a non-real-time High Complexity (HC) video compressor for generating an HC encoded bit stream from the LC encoded bit stream in non-real-time (see pg. 1 [0003], and pg. 5 [0090], Ins. 47-49).

Regarding **claim 2**, Ishizuka discloses the apparatus of claim 1, further comprising a memory device for storing the LC encoded bit stream therein (see pg. 5 [0087], Ins. 25-26).

Regarding **claim 3**, Ishizuka discloses the apparatus of claim 1, wherein the non-real-time HC video compressor begins generating the HC encoded bit stream while the video capture device is still capturing the video content and the real-time LC video compressor is still compressing the video content (see pg. 6 [0094]).

Regarding **claim 4**, Ishizuka discloses the apparatus of claim 1, wherein the electronic device is a mobile type of device, being one of a cellular telephone, a Personal Digital Assistant (PDA), a digital camera (see FIG. 5; “from camera” and pg. 5 [0086], Ins. 16-19), and a camcorder.

Regarding **claim 5**, Ishizuka discloses the apparatus of claim 1, wherein the electronic device is a Personal Video Recorder (PVR) (see FIG. 5; “from camera” and pg. 5 [0086], Ins. 16-19. A camera and digital video input device can be reasonably interpreted to be a PVR), and the real-time LC video compressor compresses the video content into the LC encoded bit stream in real-time (see pg. 5 [0087], Ins. 23-25) so as to meet any real-time requirements of the video content, while said non-real-time HC video compressor generates the HC encoded bit stream from the LC encoded bit

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stream in non-real-time (see pg. 1 [0003] and pg. 5 [0090], Ins. 47-49) so as to reduce storage requirements of the underlying video content).

Regarding **claim 10**, Ishizuka discloses the apparatus of claim 1, wherein the non-real-time HC video compressor generates the HC encoded bit stream from the LC encoded bit stream (see pg. 5 [0090], Ins. 47-49) so as to minimize bandwidth consumption in a transmission of the HC encoded bit stream from the electronic device in comparison to a transmission of the LC encoded bit stream.

Regarding **claim 11**, Ishizuka discloses the apparatus of claim 1, wherein said real-time, LC video compressor compresses the video content into the LC encoded bit stream (see pg. 5 [0090], Ins. 47-49) so as to increase an amount of the video content that can be immediately stored subsequent to capture.

Regarding **claim 12**, Ishizuka discloses the apparatus of claim 1, wherein said electronic device is further capable of capturing audio content (see FIG. 5, from microphone), and said apparatus further comprises:

a real-time LC audio compressor for compressing the audio content into another LC encoded bit stream that corresponds to the audio content (see pg. 5 [0088]); and

a non-real-time HC audio compressor for generating another HC encoded bit stream from the other LC encoded bit stream corresponding to the audio content (see pg. 5 [0091], Ins. 54-56).

Regarding **claim 14**, the limitations of claim 14 are rejected in the analysis of claim 1, and claim 14 is rejected on that basis.

Regarding **claim 15**, the limitations of claim 15 are rejected in the analysis of claim 3, and claim 15 is rejected on that basis.

Regarding **claim 16**, the limitations of claim 16 are rejected in the analysis of claim 4, and claim 16 is rejected on that basis.

Regarding **claim 17**, the limitations of claim 17 are rejected in the analysis of claim 5, and claim 17 is rejected on that basis.

Regarding **claim 22**, the limitations of claim 22 are rejected in the analysis of claim 10, and claim 22 is rejected on that basis.

Regarding **claim 23**, the limitations of claim 23 are rejected in the analysis of claim 11, and claim 23 is rejected on that basis.

Regarding **claim 24**, the limitations of claim 24 are rejected in the analysis of claim 12, and claim 24 is rejected on that basis.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka et al. (2004/0042554) in view of Lin et al. (US 2005/0169377).

Regarding **claim 6**, Ishizuka et al. discloses the apparatus of claim 1. Ishizuka also discloses the real-time and non –real time aspects of the present invention.

Ishizuka et. al is silent about the HC video compressor is capable of reusing at least a portion of the LC encoded bit stream so as to avoid having to again encode the at least a portion of the LC encoded bit stream to generate the HC encoded bit stream.

Lin et al. from the same or similar fields of endeavor discloses the HC video compressor is capable of reusing at least a portion of the LC encoded bit stream so as to avoid having to again encode the at least a portion of the LC encoded bit stream to generate the HC encoded bit stream (see 1 [0005], Ins. 61-64).

It would have been obvious to one of ordinary skill in the art at the time of the invention to reuse at least a portion of the LC encoded bit stream so as to avoid having to again encode the at least a portion of the LC encoded bit stream to generate the HC encoded bit stream, as disclosed by Lin et. al, at the seconds encoding step of the transcoder disclosed by Ishizuka, to reduce the computational complexity of the transcoder.

Claims 7-9, and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka et al. (2004/0042554) in view of Richardson (H.264 and MPEG-4 Video Compression).

Regarding **claim 7**, Ishizuka et al discloses the apparatus of claim 1. Ishizuka also discloses the real-time and non –real time aspects of the present invention.

Ishizuka is silent about the LC video compressor compresses the video content into Intra (I) frame types of Motion Picture Experts Group 4-part 10.

Richardson from the same or similar fields of endeavor discloses the LC video compressor compresses the video content into Intra (I) frame types of Motion Picture Experts Group 4-part 10 (see pg. 164 Table 6.1 H.264 slices and section 6.3.5 Slices). The present invention merely discloses H.264 encoding.

It would have been obvious to one of ordinary skill in the art at the time of the invention to design the LC video compressor, disclosed by Ishizuka, to compress the video content into Intra (I) frame types of Motion Picture Experts Group 4-part 10, disclosed by Richardson to reduce the HC encoding time.

Regarding **claim 8**, Ishizuka et al. discloses the apparatus of claim 7. Ishizuka also discloses the real-time and non –real time aspects of the present invention.

Ishizuka is silent about the HC video compressor generates the HC encoded bit stream as I, forward Predictive (P), and Bi- predictive (B) frame types of the Motion Picture Experts Group 4-part 10.

Richardson from the same or similar fields of endeavor discloses the HC video compressor generates the HC encoded bit stream as I, forward Predictive (P), and Bi- predictive (B) frame types of the Motion Picture Experts Group 4-part 10 (see pg. 164 Table 6.1 H.264 slices and section 6.3.5 Slices). The present invention merely discloses H.264 encoding.

It would have been obvious to one of ordinary skill in the art at the time of the invention to design the LC video compressor, disclosed by Ishizuka, to generate the HC encoded bit stream as I, forward Predictive (P), and Bi- predictive (B) frame types of the Motion Picture Experts Group 4-part 10, as disclosed by Richardson, for better compression of video images.

Regarding **claim 9**, Ishizuka discloses the apparatus of claim 8. Ishizuka also discloses the real-time and non –real time aspects of the present invention.

Ishizuka is silent about the HC video compressor is capable of reusing the I frame types of the LC encoded bit stream so as to avoid having to again encode the I frame types of the LC encoded bit stream to generate the HC encoded bit stream.

Richardson from the same or similar fields of endeavor discloses the HC video compressor is capable of reusing the I frame types of the LC encoded bit stream so as to avoid having to again encode the I frame types of the LC encoded bit stream to generate the HC encoded bit stream (see pg. 159 para. 4; a P slice may contain P and I macroblock types and a B slice may contain B and I macroblock types. The I macroblock types are used to encode the P and B macroblock types). The present invention merely discloses H.264 encoding.

It would have been obvious to one of ordinary skill in the art at the time of the invention to reuse the I frame types of the LC encoded bit stream so as to avoid having to again encode the I frame types of the LC encoded bit stream to generate the HC encoded bit stream in order to provide power and storage efficiency for mobile and other devices.

Regarding **claim 18**, the limitations of claim 18 are rejected in the analysis of claim 6, and claim 18 is rejected on that basis.

Regarding **claim 19**, the limitations of claim 19 are rejected in the analysis of claim 7, and claim 19 is rejected on that basis.

Regarding **claim 20**, the limitations of claim 20 are rejected in the analysis of claim 8, and claim 20 is rejected on that basis.

Regarding **claim 21**, the limitations of claim 21 are rejected in the analysis of claim 9, and claim 21 is rejected on that basis.

5. Claims 13 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka et al. (2004/0042554) in view of Henry et al. (US 7,420,482).

Regarding **claim 13**, Ishizuka discloses the apparatus of claim 12. Ishizuka also discloses the real-time and non –real time aspects of the present invention.

Ishizuka is silent about the LC audio compressor compresses the audio content using Moving Picture Experts Group Layer-3 Audio (MP3), and the non-real-time audio compressor generates the other HC encoded bit stream from the other LC encoded bit stream using MP3-Pro.

Henry et al. from the same or similar fields of endeavor discloses the real-time LC audio compressor compresses the audio content using Moving Picture Experts Group Layer-3 Audio (MP3), and the non-real-time audio compressor generates the

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other HC encoded bit stream from the other LC encoded bit stream using MP3-Pro (see Abstract and column 8 lns. 2-3. Henry teaches transcoding from a first encoding format to a second encoding format. Henry also teaches the encoding formats are for example, MPEG 1, MPEG 2 (AC3), MP3, MP3 Pro).

It would have been obvious to one of ordinary skill in the art at the time of the invention enable the real-time LC audio compressor to compress the audio content using Moving Picture Experts Group Layer-3 Audio (MP3), and the non-real-time audio compressor generates the other HC encoded bit stream from the other LC encoded bit stream using MP3-Pro in order to provide power and storage efficiency for mobile and other devices.

Regarding **claim 25**, the limitations of claim 25 are rejected in the analysis of claim 13, and claim 25 is rejected on that basis

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Gordon et al. (US 7,096,487)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFERY WILLIAMS whose telephone number is (571)270-7579. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571)272-7905. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Marsha D. Banks-Harold/
Supervisory Patent Examiner, Art Unit 2482

/JEFFERY WILLIAMS/
Examiner, Art Unit 2482

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